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U.S. PATENT & TRADEMARK OFFICE

PATENT  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Owain Francis PEDGLEY et al. Attorney Docket No.: P67575US0

Serial No.: 10/049,638 Group Art Unit: 2837

Filed: April 1, 2002 Examiner: Kimberly R. LOCKETT

For: ACOUSTIC DEVICE

RESPONSE

BOX NON-FEE AMENDMENT.  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

With regard to the issues raised in the Office Action of October 24, 2003 (Paper No. 5), the Examiner is seeking to interpret any kind of musical instrument having polycarbonate in its construction as having a polycarbonate soundboard. This is a wholly inappropriate interpretation of the term "soundboard".

A soundboard is a board contained in the resonance chamber of a musical instrument such as a violin or piano, and which serves to increase resonance. Thus, as a term of art, it requires that:

- i) it (the soundboard) resembles a thin plate or "lamina";
- ii) its primary function is to move air;
- iii) it is directly coupled to the load of tensioned strings; and

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iv) it forms the front (forward-facing) component of a resonance chamber.

With regard to the Cavaness patent (U.S. Patent No. 5,747,711) cited as anticipating claims 1 and 9-11, Cavaness is concerned with a body for a stringed musical instrument (abstract, claim 1) and fails to provide any teaching as to a soundboard, and particularly fails to provide any teaching as to a soundboard consisted of expanded polycarbonate. The only mention in Cavaness of the use of polycarbonate is at column 2, lines 38-40 where it states that "the inventive body is preferably constructed of a clear, impact-resistant material such as polycarbonate".

Claim 1 of the present application is concerned with the use of expanded polycarbonate, which is opaque and therefore does not fall within the scope of the use of polycarbonate mentioned at column 2, lines 38-39 of the Cavaness patent. The use of expanded polycarbonate in the bodies of Cavaness would visibly mask the substances contained within the body, preventing the advantages which are required by Cavaness from being achieved. Therefore, Cavaness explicitly teaches that expanded polycarbonates are not to be used in the construction of its manual instrument bodies.

Going back to the issue of the requirements of a soundboard, Cavaness makes no reference to the "hollow interior" or "front" of its own musical instrument body fulfilling the functions of an acoustic musical instrument sound chamber and soundboard respectively. The Examiner's claims that Cavaness discloses a

purported "resonance chamber" and "soundboard", both of which imply an intentional acoustic function involving the displacement of air, is wholly unfounded and incorrect.

Cavaness requires a hollow body, of which a front is obviously a necessary feature, but this is only done in order to provide a reservoir into which substances can be poured to achieve a variable visual effect. There is no disclosure of the essential features of a soundboard and therefore Cavaness does not anticipate any of claims 1 or 9-11. The Examiner may be trying to read an implicit disclosure of the claimed subject matter into Cavaness, but without the specific instructional features required by a soundboard, Cavaness cannot and does not disclose the features of the present claims.

With regard to the obviousness rejections raised on the basis of Cavaness and Foss Jr., as mentioned above, Cavaness teaches neither the use of a soundboard, nor the requirements for one. Cavaness is concerned solely with achieving a visual effect rather than an acoustic one. Cavaness further fails to disclose or suggest the use of expanded polycarbonate since its use would go against the requirement in Cavaness for a clear body. Therefore Cavaness provides no motivation to modify its body to achieve an acoustic effect, specifically that achieved by a soundboard, and also teaches against the use of expanded polycarbonate.

Foss is concerned with protective devices for musical instruments (see title) and at column 2, lines 40-43 mentions that

polycarbonate sheet may be used to form a rigid support for a padding device. Therefore, Foss fails to disclose the use of expanded polycarbonates. Foss fails to provide any teaching of the acoustic properties of expanded polycarbonates. Foss fails to make any teaching of a soundboard, or of the use of an expanded polycarbonate as a soundboard. Foss makes no disclosure of musical instruments having a resonance chamber. Therefore, any attempt to combine Cavaness and Foss would be improper.

With regard to the combination of art documents, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make modification obvious unless the prior art suggests the desirability of the modification (In re Oetiker, 977 F.2d 1443, 1447 (Fed. Cir. 1992) (citing Diversitech Corp. v. Century Steps, Inc., 850 F. 2d 675, 678-79 (Fed. Cir. 1988)); In re Geiger, 815 F. 2d 686, 687 (Fed. Cir. 1987); Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1147 (Fed. Cir. 1985) "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F. 2d 1260, 1266 (Fed. Cir. 1992) (citing In re Gormyan, 933 F. 2d 900, 902 (Fed. Cir. 1984)).

Neither Cavaness nor Foss provides any incentive to combine the documents, and therefore the two should not be combined, and even if combined would not result in the presently claimed invention.

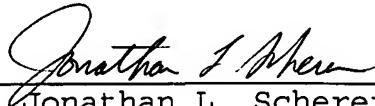
Claim 3 is rejected as being obvious over Cavaness in view of Cove (U.S. Patent No. 4,185,534). Claim 3 is directed to an acoustic device comprising a resonance chamber including a soundboard made of expanded polycarbonate, wherein the soundboard has a closed cell rigid foam structure. The Examiner argues that it would have been obvious to modify the device of Cavaness with the foam of Cove in order to protect the body of the instrument. However, this is again an improper combination. Cavaness teaches making a hollow body. In contrast, Cove teaches (column 2, lines 43-59) making a stringed musical instrument with a homogenous cellular solid body. At column 2, lines 47-55, Cove explicitly teaches that a thick self-supporting solid body should be produced "as opposed to thin diaphragms, sheets or sounding boards." Therefore, Cove teaches that it is absolutely not concerned with providing soundboards and therefore any combination with Cavaness is improper.

Based on the foregoing remarks, it is respectfully submitted that the claims in the present application, as they now stand, patentably distinguish over the references cited and applied by the Examiner and are, therefore, in condition for allowance. A Notice of Allowance is in order, and such favorable action and reconsideration are respectfully requested.

However, if after reviewing the above remarks, the Examiner has any questions or comments, he is cordially invited to contact the undersigned attorneys.

Respectfully submitted,

JACOBSON HOLMAN, PLLC

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